

SEP 09 2010

Appl. No. 10/550,344
Amendment and/or Response
Reply to Office action of 9 July 2010

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REMARKS / DISCUSSION OF ISSUES

Claims 12-31 are pending in the application. Claims 1-11 are canceled herein, and claims 12-31 are newly added.

The following comments are provided with regard to the prior art cited in the rejection of claims 1-11, Demonceau et al. (USP 6,389,310, hereinafter Demonceau).

Demonceau discloses segmenting regions of an image of the heart into six regions of interest: the Aorta Descendens (AoD), the left auricle (LA), the right auricle (RA), the left ventricle (LV), and the right ventricle (RV), and the spleen (Spl). Demonceau also determines reference planes corresponding to the valvular plane (VP) and the septum (S). Each of the segmented regions includes points having common characteristics, such as a similar intensity value. Demonceau uses a watershed algorithm to perform this segmentation into these common-characteristic regions.

Demonceau does not disclose further identifying a plurality of sub-segments within any of these common-characteristic segments. That is, for example, once the high intensity pixels that identify the Spleen are labeled as being part of the Spleen, thereby creating a region of similar-intensity values (Demonceau, column 21, lines 28-44), no further subdividing of this region is performed.

In the prior Office actions, the Examiner had asserted that Demonceau identified the heart as a region of interest, and that the AoD, LA, RA, LR, RV, and Spl regions correspond to an identification of sub-segments within this region of interest. Independent claims 12 and 28 specifically recite that the region of interest is a region with points having similar characteristics; the heart, per se, is not a region with points that have similar characteristics. To the contrary, Demonceau relies on the fact that different regions within the heart have distinctly different characteristics in order to identify each of these regions (Demonceau's FIG. 1).

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As noted in the applicants' prior remarks, the applicants teach and claim a two-step segmentation process: a segment of interest is identified, and that segment is further segmented into a plurality of sub-segments. Demonceau, on the other hand, teaches a single segmentation process to identify each region of the heart. Once the regions are identified, Demonceau uses filtering techniques to improve the quality of the segmented regions; Demonceau does not teach or suggest further segmenting the identified regions into a plurality of sub-segments, as specifically taught and claimed by the applicants.

Further, Demonceau does not teach removing select sub-segments from the segment of interest to form another segment of interest corresponding to the contour of the object of interest, as also specifically taught and claimed by the applicants.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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